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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,401	05/09/2001	Louis B. Rosenberg	IMM005B	5620

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COOLEY GODWARD LLP
ATTN: PATENT GROUP
11951 FREEDOM DRIVE, SUITE 1700
ONE FREEDOM SQUARE- RESTON TOWN CENTER
RESTON, VA 20190-5061

EXAMINER

NGUYEN, CHANH DUY

ART UNIT PAPER NUMBER

2675

DATE MAILED: 07/03/2003

28

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/852,401	Applicant(s) ROSENBERG, LOUIS B.	
	Examiner Chanh Nguyen	Art Unit 2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-50, 57-59 and 64-76 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-50, 57-59 and 64-76 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>20</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on April 17, 2003 has been entered and considered by examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 44-47, 57, 59, 64-67, 70, 72-73 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adelstein (A Virtual Environment System For The Study Of Human Arm Tremor) in view of Rosen (U.S. Patent No. 5,107,080).

As to claim 44, Adelstein discloses the apparatus as recited in claim 44 with exception of describing the limitation "a translational degree of freedom". For example, Adelstein teaches an apparatus including a user object (a handle shaft having hand grip for a user to hold the joystick as shown in Figures 4.3, 4.6). Adelstein teaches a closed loop five member linkage joystick mechanism configured to enable the user object to move in first and second rotary degrees of freedom, Figure 4.3 which is exactly the same as applicant's disclosed claimed device shown in Figure 2. Adelstein teaches at least one sensor coupled to the closed -loop five member linkage and operative to detect a movement of the user object in at least one degree of freedom (see page 64 and page 78, last paragraph). Adelstein teaches at least one actuator (coupled to the

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closed loop five member linkage and configured to output a feed back force, the feedback force responsive to the movement of the user object (see page 64, last paragraph). In the same field of endeavor, Rosen teaches a joystick mechanism enable the user object (28) in a translation degrees of freedom (z direction) (see column 4, lines 54-68 and column 5, lines 45-52). Even Adelstein suggests six degrees of freedom mechanism including translational axis using link mechanism (see page 48, third paragraph). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have use Z axial a translation force applied to the handle shaft as taught by Rosen to the handle shaft of Adelstein so as to provide a simple damping mechanism having Z translation handle movement (see column 2, line 4 of Rosen).

As to claim 57, this claim differs from claim 44 only in that the limitation "laparoscopic surgical instrument" is additionally recited. It would have been obvious to one of ordinary skill in the art the device of Adelstein can be used as laparoscopic surgical instrument since it depends upon the environment or application the instrument is connected to. For example, a joystick can be used in game application, but it also can be used in general office application such as selecting icons. Moreover, it is well-known in the art to use joystick mechanism for laparoscopic surgical instrument (i.e. the reference Jacobus et al U.S. Patent No. 5,769,640) clearly teaches laparoscopic surgical instrument).

As to claim 45, Adelstein clearly teaches the user object including a grip portion (handgrip 2) and an elongate portion (handle link 1) ; see Figure 4.6

As to claim 46, this claim is analyzed as previously discussed with respect to claim 57.

As to claims 47 and 73, Adelstein clearly teaches a transducer coupled to the grip portion of the user object, the transducer response to a relative motion of the handgrip (see page 101, Transducer and Electronic Conditioning).

As to claim 59, Adelstein teaches at least two actuators for two degrees of freedom. Rosen teaches another actuator for translational degree of freedom. Thus, combining Adelstein and Rosen would meet the claimed limitation.

As to claims 64, 66, 72, the limitation "laparoscopic instrument" and "medical procedure" is previously discussed with respect to claim 57 above.

As to claims 65 and 67, Adelstein clearly teaches sensor and force feed back correlated with the virtual reality (see pages 23, 26, 101).

As to claims 70 and 76, Adelstein clearly teaches actuator including a motor (see page 90, section 4.3).

4. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen in view of Adelstein as applied to claim 44-45 above, and further in view of Scott-Jackson et al (U.S. Patent No. 4,590,339).

As to claim 48, note the discussion of Rosen and Adelstein, both do mention a finger wheel positioned on the grip portion. Scott-Jackson teaches wheels (121, 123, 125) recessed into the base of the handle (see Figure 5 and column 6, lines 5-9), but it would have been obvious the wheel (121, 123, 125) can positioned on the grip portion

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so that a user does not has to leave his/her hand from the handle for activating the wheels. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the finger wheel of Scott-Jackson to the grip portion of Adelstein as modified by Rosen so that the device can perform different function than translation and rotation such as switching from one type machine to the other (see column 7, lines 27 -39 of Scott-Jackson).

5. Claims 49-50 and 74-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adelstein in view of Rosen as applied to claim 44 above, and further in view of Tuason (U.S. Patent No. 5,403,191).

As to claims 49-50 and 74-75, note the discussion of Adelstein and Rosen above, Adelstein and Rosen do not mention a barrier and a trocar. Tuason teaches trocar (24) and barrier (17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the trocar and barrier as taught by Tuason to the apparatus of Adelstein as modified by Rosen so as to allow a surgeon to perform the simulation resemble real life operation; see column 6, lines 3-11 of Tuason.

6. Claim 58, 68-69 and 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Adelstein in view of Rosen as applied to claim 57 above, and further in view of Massie et al (U.S. Patent No. 5,625,576).

As to claims 58 and 68, note the discussion of Adelstein and Rosen above, Adelstein and Rosen do not mention capstan mechanism. Massie teaches capstan mechanism (e.g., 134); see column 11, lines 32-54. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the capstan as taught by Massie to the apparatus of Adelstein as modified by Rosen so as to allow for higher tension with lower friction than a conventional simple loop configuration; see column 11, lines 50-54 of Massie.

As to claim 69, the limitation "capstan drum, cable and a pulley" is met by Massie (see column 10, lines 39-40 and column 11, lines 32-54).

As to claim 71, braking mechanism is well-known in the art, even broadly reads on friction caused by mechanical elements in the Adelstein or Massie's devices.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 44-50, 57-59 and 64-76 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Massie et al (U.S. Patent No. 5,625,576).

As to claim 44-50, 57-59 and 64-76, Massive discloses the closed-loop five member linkage mechanism including a translation degrees of freedom as recited independent claim 44 (see column 11, line 23, column 13, lines 13-30) and medical instrument recited as recited in independent claim 57 (see column 29, lines 7-13).

Response to Arguments

9. Applicant's arguments with respect to claims 44-50, 57-59 have been considered but are moot in view of the new ground(s) of rejection.

In view of amendment, the references of Rosen, Thurston and Massie have been added for new ground rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Steven Saras can be reached at 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121

Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

CN

C. Nguyen
June 28, 2003


CHANH NGUYEN
PRIMARY EXAMINER